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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,944	10/26/2000	Teruo Wakashiro	001452	4729

7590 02/06/2002

Armstrong Westerman Hattori
McLeland & Naughton
1725 K Street NW
Suite 1000
Washington, DC 20006

EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 02/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,944

Applicant(s)

WAKASHIRO ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

- ✓ 1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Control system for hybrid vehicle having oxygen and nitrogen oxide reduction devices.

Drawings

- X 2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the output assist determination device and the determination threshold value changer as disclosed in claim 1 and the determination threshold value change prohibiting device as disclosed in claim 2 and the terminating device as disclosed in claim 3 and the reduction device as disclosed in claim 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims disclosed several devices like an output assist determination device, a determination threshold value changer, terminating device, etc.

From the specifications, it seems like if these "devices" are actually steps (e.g. output assist determination device is referred as steps S122, S135) in a control method or commands in a program for a microprocessor/microcontroller. What makes these "devices" do what is disclosed in the claims? Are these physical devices or parts of a vehicle or fragments of a computerized program?

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is disclosed an output assist determination device which assists. In what way this device "assists"? Does it provide extra power to the engine? Does it regulate the engine? The electric motor? What is meant by assisting "the output from the engine by the motor"? Is the motor like an intermediate device?

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How this device assists the output? What is considered to be the output from the engine? Torque output? Fuel efficiency output?

About the determination threshold value changer, is this a physical device or a fragment of a program? What threshold value does it changes? The fuel threshold value? The air-fuel ratio threshold value? The air-fuel threshold mixture value? How does it changes the value?

In claim 2, how does the determination threshold value change prohibiting device prohibits the operation of the determination threshold value changer? Is this another physical device or a fragment of a computerized program? What is meant by "prohibiting the operation"? Stopping the operation?

In claim 3, how the terminating device over rides the determination threshold value change prohibiting device? Is this a physical device? Could this device be point out in figure 1?

In claim 4, where in the reduction device located? Can also this device be point out in figure 1? How does it reduce the oxygen?

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Matsubara et al.

Matsubara et al discloses a control system for a hybrid vehicle having an electric motor M, power storage units 3 (see figure 1), an output assist determination device for assisting the output from the engine by the motor (see abstract) and an air-fuel controller 11. Also, a determination threshold value changer is disclosed depending on the stoichiometry of the fuel (column 10, lines 32-52). Moreover, a speed sensor S2 is disclosed.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubara et al in view of Yasui et al.

Matsubara et al discloses a control system for a hybrid vehicle having an electric motor M, power storage units 3 (see figure 1), an output assist determination device for assisting the output from the engine by the motor (see abstract) and an air-fuel controller 11. Also, a determination threshold value changer is disclosed depending on the stoichiometry of the fuel (column 10, lines 32-52). Moreover, a speed sensor S2 is disclosed.

However, Matsubara does not disclose a device that can prohibit the operation of determination threshold value changer.

On the other hand, Yasui et al discloses for the purpose of converting an output of an exhaust gas sensor to a target value accurately and stably, a prohibiting device that stops and affects the air-fuel ratio. Moreover, the prohibiting device can be terminated (column 37, lines 52-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a controller for a hybrid vehicle as disclosed by Matsubara and to modify the invention by using a prohibiting device for the purpose of converting an output of an exhaust gas sensor to a target value accurately and stably as disclosed by Yasui et al.

11. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubara et al in view of Takanohashi et al and Morikawa et al.

Matsubara et al discloses a control system for a hybrid vehicle having an electric motor M, power storage units 3 (see figure 1), an output assist determination device for assisting the output from the engine by the motor (see abstract) and an air-fuel controller 11. Also, a determination threshold value changer is disclosed depending on the stoichiometry of the fuel (column 10, lines 32-52). Moreover, a speed sensor S2 is disclosed.

However, Matsubara does not disclose a nitrogen oxide reduction device.

On the other hand, Takanohashi et al discloses for the purpose of avoiding possible damages due to overcharging to a hybrid vehicle, a nitrogen oxide reduction device (see abstract).

However, neither Matsubara nor Takanohashi disclose an oxygen reduction device.

On the other hand, Morikawa et al discloses for the purpose of providing sufficient heating capacity while fuel consumption is improved, an oxygen sensor 34 for measuring oxygen concentration in the exhaust gas and an oxygen reduction device 11 so as to reduce the oxygen concentration in the exhaust gas.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a controller for a hybrid vehicle as disclosed by Matsubara and to modify the invention by using a nitrogen oxide reduction device for the purpose of avoiding possible damages due to overcharging to a hybrid vehicle as disclosed by Takanohashi and to use an oxygen sensor for the purpose of providing

sufficient heating capacity while fuel consumption is improved as disclosed by Morikawa et al.

12. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubara et al in view of Takanohashi et al and Morikawa et al and Yasui et al.

Matsubara et al discloses a control system for a hybrid vehicle having an electric motor M, power storage units 3 (see figure 1), an output assist determination device for assisting the output from the engine by the motor (see abstract) and an air-fuel controller 11. Also, a determination threshold value changer is disclosed depending on the stoichiometry of the fuel (column 10, lines 32-52). Moreover, a speed sensor S2 is disclosed.

However, Matsubara does not disclose a nitrogen oxide reduction device.

On the other hand, Takanohashi et al discloses for the purpose of avoiding possible damages due to overcharging to a hybrid vehicle, a nitrogen oxide reduction device (see abstract).

However, neither Matsubara nor Takanohashi disclose an oxygen reduction device.

On the other hand, Morikawa et al discloses for the purpose of providing sufficient heating capacity while fuel consumption is improved, an oxygen sensor 34 for measuring oxygen concentration in the exhaust gas and an oxygen reduction device 11 so as to reduce the oxygen concentration in the exhaust gas.

However, neither Matsubara nor Takanohashi nor Morikawa disclose a device that can prohibit the operation of a determination threshold value changer.

On the other hand, Yasui et al discloses for the purpose of converting an output of an exhaust gas sensor to a target value accurately and stably, a prohibiting device that stops and affects the air-fuel ratio. Moreover, the prohibiting device can be terminated (column 37, lines 52-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a controller for a hybrid vehicle as disclosed by Matsubara and to modify the invention by using a nitrogen oxide reduction device for the purpose of avoiding possible damages due to overcharging to a hybrid vehicle as disclosed by Takanohashi and to use an oxygen sensor for the purpose of providing sufficient heating capacity while fuel consumption is improved as disclosed by Morikawa et al and to use a terminating device for the purpose of converting an output of an exhaust gas sensor to a target value accurately and stably as disclosed by Yasui et al.

Conclusion

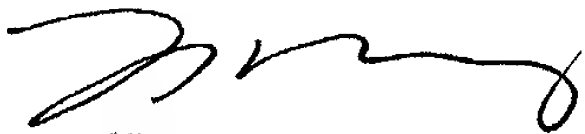
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

February 1, 2002


NESTOR RAMIREZ
SUPERVISOR
ART UNIT 2834